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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,478	09/27/2000	KOUICHIROU WAKABAYASHI	107454	7122

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EXAMINER

PSITOS, ARISTOTELIS M

ART UNIT PAPER NUMBER

2653

DATE MAILED: 01/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/671,478

Applicant(s)

WAKABAYASHI ET AL.

Examiner

Aristotelis M Psitos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) all is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/29/02 has been entered.

Specification

The amendment to the title of the invention is appreciated and has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1,3,5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ishida et al.

Ishida et al discloses a mo disk and system of forming patterns thereon. Note the disclosure at col. 1 lines 45-50 with respect to a substrate not having any pits formed thereon. The examiner interprets the TOC ability as the management area/data; the information/data region is considered self evident as is the servo patterns.

Under 102 considerations, since the apparatus/product limitations have been met, all of the desired functional recitations remaining in the claim are inherently present – e.g., all of the remaining limitations must follow from the limitations positively recited. Alternatively, if applicants' can convince the

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examiner that such is not the case, then under 103 considerations the examiner takes Official notice of the ability of detecting information using leakage magnetic field(s), and that it would have been obvious to use such well known techniques to permit appropriate reproduction.

With respect to claim 3, this is by definition a type of magnetic recording ability, use of both light and magnetic field, as well as modulated magnetic field modulation. The examiner concludes that such is inherently present in the Ishida et al system, or alternatively obvious over such well-known abilities.

With respect to claim 5, the examiner concludes that as known, the reproducing transducer must have a width sufficiently wide enough to reproduce the desired signal component, and as such, this limitation is also considered present in the overall system.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 1,3, and 5 above, and further in view of McDaniel et al.

The ability of using perpendicular magnetic film for the magnetic recording layer is well known as taught by the McDaniel et al document.

It would have been obvious to modify the base system of Ishida et al with the above noted teaching and provide for the appropriate material, since selection of such is merely a substitution of one magnetic film over another.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 1,3, and 5 above, and further in view of Official notice.

The shape of the magnetic marks as recited – rectangular – are considered merely a selection from a variety of shapes, oval, square, ellipsoid, etc., and selection of the shape is either a selection between alternative equivalents, or merely a desired shape for signal optimization.

It would have been obvious to modify the base system of Ishida et al with the above alternative shape ability; motivation is to have any desired signal shape.

5. Claims 1,2,3, 5 are rejected under 35 U.S.C. 102(e) as being anticipated by McDaniel et al or alternatively obvious under 103(a).

McDaniel et al discloses a magnetic disk wherein not only is perpendicular magnetic film used, but that no pits need be formed on the substrate – see col. 8 lines 20 plus. Although no management data is

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specifically recited, the ability of having TOC data in this environment is well known and Official notice is taken thereof. To modify the McDaniel et al record and provide for such is considered a desired ability in order to rapidly reproduce selected information. The remaining functional ability of reproduction is considered inherently present since such must follow from the positive structure elements recited.

With respect to claims 3 and 5, again, claim 3 recitations of light and magnetic field(s) is considered by definition no ability. The use of modulated magnetic field is not inherently in McDaniel et al would be obvious over such well-known techniques and Official notice is taken of such well-known techniques.

The servo patterns are present and, the examiner concludes that as known, the reproducing transducer must have a width sufficiently wide enough to reproduce the desired signal component, and as such, this limitation is also considered present in the overall system.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 1,2,3 and 5 as stated in paragraph 5 above, and further in view of Official notice.

The shape of the magnetic marks as recited – rectangular – are considered merely a selection from a variety of shapes, oval, square, ellipsoid, etc., and selection of the shape is either a selection between alternative equivalents, or merely a desired shape for signal optimization.

It would have been obvious to modify the base system of Ishida et al with the above alternative shapes ability, motivation is to have any desired signal shape.

7. Claims 6-20 are rejected under 35 U.S.C. 103(a) as being anticipated by either Birukawa et al documents or McDaniel et al considered with either JP 10-021598 (see US patent to Yoshida et al) or Berg et al, or alternatively either Birukawa et al further with Ishida et al and further with either JP 10-021598 or Berg et al.

With respect to claims 6-8, 14 and 15, as noted in these documents, a MO record medium provides for both information and servo marks. Hence, during formatting of the disc, either by soft or hard formatting techniques, there is a magnetic reproducing head that appropriately detects the information as claimed. Furthermore, during the information writing segment/mode/operation of the system, a MO head - comprising of an optical and magnetic component - is appropriately used and

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information is applied to the record medium. Applicants' attention is drawn to the summary of the invention as found in either of the documents above.

Additionally, there is inherently positioning means/elements/ ability contained in these documents in order for the appropriate recording/reproduction of the information.

Furthermore, concerning the limitations of claims 14, 15, 19 and 20, by definition, the MO technique inherently meets these limitations. It is noted that claim 15 does not add any structural limitations to the apparatus.

The method claims parallel in the above apparatus claims are met with the system is in operation and no further analysis as made.

The examiner has interpreted the system of either Birukawa et al as being MSR and hence because there is no discussion of pit formation upon the substrate, the examiner concludes such is not found. Alternatively, as further discussed in Ishida et al, such a format/manufacturing ability is well known and if applicants can convince the examiner that neither Birukawa et al provide for a pit less substrate, the examiner would further rely upon Ishida et al for teaching such alternative equivalent disc manufacturing techniques.

Alternatively, McDaniel et al discloses a MSR rec/reproducing system and inherently possesses the appropriate circuitry for reading and writing and servo circuitry for positioning the transducers. Alternatively, either Birukawa et al document provides for such and McDaniel et al would be modified accordingly to perform its inherent writing/reading functions.

With respect to the magnetic reproducing head/limitations, it is noted that the above system uses a combined optical reproducing and mag. Bias head in order to reproduce the information. Nevertheless, the ability of using a magnetic reproducing head for the reading of the information is taught by either JP 10-021598 or Berg et al. Applicants' attention is further drawn to the discussion of the JP document as contained in the Yoshida et al patent – see discussion of the related art and motivation for using a magnetic reproducing head.

It would have been obvious to modify the base system of either of the Birukawa et al systems or McDaniel et al motivation is as discussed/recognized in JP 10-021598.

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With respect to claims 9,12 and 17 the Berg et al document discloses having all the transducing elements on one side of the record medium, while with respect to claims 13 and 18, the JP document teaches the elements on opposite sides, although the Birukawa et al documents depict such as well.

They are appropriately placed on a slider, and the MR and SIL limitations (claims 10 & 11) are discussed accordingly.

Response to Arguments

Applicant's arguments with respect to all the claims have been considered but are moot in view of the new ground(s) of rejection.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Oshima et al – MSR pit less medium with appropriate read back of the information, Matsumoto et al the same. The limitations concerning these dependent claims, GMR or MR head, SIL head, as well as the placing of the heads in opposition is taught by the article to Saga et al has being standard in this environment. Concerning the ability of having all the heads in a slider all arranged on the same side, such an arrangement is considered to be obvious in view of the Saga et al document considered with the Diepers et al document.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M Psitos whose telephone number is (703) 308-1598. The examiner can normally be reached on M-Thursday 8 - 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (703) 305-6137. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Aristotelis M Psitos
Primary Examiner
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January 20, 2003